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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SAYALA, CHHAYA D	

ART UNIT	PAPER NUMBER
1761	

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07/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/613,714	SEWALT ET AL.	
	Examiner	Art Unit	
	C. SAYALA	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23 and 25-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23, 25-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 lacks antecedent basis in its recitation " the material which assists in maintaining a reducing condition in the proteinaceous product. "

Claim 29 lacks proper antecedent basis and improperly depends from a method claim. Note that there is no particular composition claimed in claim 28 and it is not clear what composition this claim is referring to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim1, 3, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris (U S Patent 2799583).

The patent teaches a reducing agent and urea in the amounts claimed for preserving animal feed during storage (col. 1, line 24). See the claims. Ensiled material

would inherently contain proteinaceous material (see col. 1, line 47, which discloses legumes). Also see col. 2, lines 15-17; metabisulfite is a reducing agent Since the steps are the same, the chemicals are the same, the proteinaceous animal feed stuff is the same, and the amounts are the same, then the degree of caking has been inherently decreased.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2, 10, 11, 13, 15, 22-23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris in view of Vinelli (US Patent 6610341).

The patent to Harris, discussed above, shows metabisulfite but not bisulfite or sulfite. Vinelli teaches preserving feed, from mold and yeast growth, known to cause caking, by treating the feed with sulfite, bisulfite, metabisulfite *or mixtures thereof.* Therefore to substitute bisulfite for the metabisulfite as functional equivalents and combine it with the sulfite would have been prima facie obvious. See the claims.

4. Claims 4-6, 16, 17-18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris and Vinelli as discussed above, in view of Weeks et al.

(US Patent 3578460) and further in view of Slavtcheff et al. (US Pub. No. 2004/0219118) and WO 01/98509.

The patents to Harris and Vinelli, as discussed above, teach the reducing agents bisulfite and sulfite but not reductants such as the enzymes listed at claim 6 or the antioxidants such as those listed in claim 8.

Weeks et al. teach treating proteinaceous materials, as claimed, and further defined at page 1 of the instant specification, lines 5-10, with keratinase enzyme and with reducing agents, which are "reductive type disulfide splitting" such as sulfite, mercaptoethanol, meta bisulfite, etc. Examples show the use of keratinase, with sulfite or mercaptoethanol in ratios 1:1 to 3:1. However, keratinase is a keratin degrading enzyme (hence its name) and is a known reducing agent that is capable of reducing disulfide linkages, as is sodium disulfide and dithioerythritol, as Slavtscheff et al., which reference has been relied on here only to show basic knowledge in the art: compounds that are known as reducing agents for disulfide linkages. See paragraph [0032]. WO 01/98509 teaches that like keratinase, thioredoxin and thioredoxin reductase are enzymes that also reduce disulfide bonds in proteins. See page 1. To replace or substitute any of these reducing agents, all intended for treating proteins, as in the primary references, partially or totally, with the reasonable expectation that they are just as useful as the reducing agents of Harris, would have been prima facie obvious.

5. Claims 7-8, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris and Vinelli as discussed above, in view of Hauck et al. (US Patent 4172148) and Simonsen et al. (US Pub. No. 2004/0033927).

Harris and Vinelli are as discussed in the above paragraphs. They do not disclose BHA, BHT or propyl gallate. Hauck et al teaches "basic feed material conventionally used for nourishing ruminants animals" at col. 3, lines 30-65, wherein anti-oxidants such as BHT or propyl gallate are added together with soybean meal, urea, cereal grains etc. Simonsen et al. provide guidance as to the functional equivalence of sulfites, ascorbates, TBHQ, BHA, BHT and gallate, all materials that are reducing agents/oxidants. Then to combine similar compounds for the same purpose would have been prima facie obvious, and since Harris already provides guidance as to amounts of the reducing agent, to adopt the same for these functionally equivalent compounds too, would have been obvious to one of ordinary skill in the art at the time the invention was made. It is prima facie obvious to combine two compositions each of which is taught by prior art to be useful for the same purpose in order to form a third composition that is to be used for the same purpose; the idea of using them flows logically from their having been individually taught in prior art. In re Kerkhoven, 205 USPQ 1069 (CCPA 1980).

6. Claims 9, 21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris and Vinelli in view of Loo et al. (US Patent 2825651).

Primary references are as described above They do not disclose using an inert gas to maintain a reducing condition in the container. The above patent to Loo et al. shows processing food with inert gases, such as CO_2 and nitrogen, which perform the function of flushing out the container of O_2 after the use of sodium sulfite, a reducing agent; thus providing oxygen free packaging of dry products. See the claims, col. 1, line 40. It would have been obvious to treat the proteinaceous materials in the same manner after treating it with a reducing agent for the obvious benefit of maintaining a reducing condition for beneficial preservation.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over disclosed prior art in the specification @ page 1, lines 9-10 in view of Harris and Vinelli, Weeks et al, WO 01/98509. and Simonsen et al. and further in view of Hauck et al.

Harris teaches a reducing agent and urea in the amounts claimed for preserving animal feed during storage (col. 1, line 24). See the claims. Ensiled material would inherently contain proteinaceous material (see col. 1, line 47, which disclose legumes). Also see col. 2, lines 15-17 metabisulfite is a reducing agent Since the steps are the same, the chemicals are the same, the proeinaceous animal feed stuff is the same. The patent to Harris shows metabisulfite but not bisulfite or sulfite. Vinelli teaches preserving feed also from mold and yeast growth, by treating the feed with sulfite, bisulfite, metabisulfite or mixtures thereof. Therefore to substitute bisulfite for the metabisulfite as functional equivalents and combine it with the sulfite would have been prima facie obvious. See the claims. The patents to Vinelli and Harris teach the

reducing agents bisulfite and sulfite but not reductants such as the enzymes listed or the antioxidants claimed.

Weeks et al. teaches treating proteinaceous materials, as claimed, and further defined at page 1 of the specifications at page 1, lines 5-10, with keratinase enzyme *and with* reducing agents, which are "reductive type disulfide splitting" such as sulfite, mercaptoethanol, meta bisulfite, etc. Examples show the use of keratinase, and sulfite and mercaptoethanol in ratios 1:1 to 3:1. However, keratinase is a keratin degrading enzyme (hence its name) and is a known reducing agent that is capable of reducing disulfide linkages. WO 01/98509 teaches that like keratinase, thioredoxin and thiredoxin reductase are enzymes that also reduce disulfide bonds in proteins. See page 1. To replace or substitute any of these reducing agents, all intended for proteins in the primary references, partially or totally, or to combine them, with the reasonable expectation that they are just as useful as the reducing agents of Harris would have been prima facie obvious. These references do not disclose BHA, BHT or propyl gallate. Hauck et al teaches "basic feed material conventionally used for nourishing ruminants animals" at col. 3, lines 30-65; wherein oxidants such as BHT or propyl gallate are added together with soybean meal, urea, cereal grains etc. Simonsen et al. provide guidance as to the functional equivalence of sulfites, ascorbates, TBHQ, BHA, BHT and gallate, all materials that are reducing agents/oxidants. Then to combine similar compounds for the same purpose would have been prima facie obvious, and since Harris already provides guidance as to amounts of the reducing agent to adopt the

same would have been obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments with respect to claims 1-23, 25-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art is being made of record to establish basic knowledge in the art as well as references that describe the invention, as claimed:

- Donovan et al. @ col. 4, line 40+ show that mold, yeast and microorganisms in feed produce heating, dustiness, unpalatability and caking.
- Mueller et al. disclose @ col. 1, line 24 that "The formation of molds and the bacterial activity results in a spontaneous heating of stored feeds which in turn causes caking together and discoloration."
- White et al. also show @ col. 1, line 15 that in animal feeds containing seeds, which is defined in the patent at col. 2, line 53+ as including grains, microorganisms can cause heating and caking.

- Laughlin et al. disclose @ col. 38 that *urea is anti-caking*. A compound and its properties cannot be separated. In re Papesch, 137 USPQ 43 (CCPA 1963).
- Vidal et al. teach that the combination of sulfur dioxide and ammonia are antimicrobial agents for grains. Note that both are claimed herein, but the reference has not been applied in view of the references already applied, and as being redundant. This reference may anticipate some of the claims.
- Forest et al. is pertinent in its disclosure of sulfite, bisulfite and metabisulfite taken with diastase enzyme, a known reducing agent, as being effective preservatives for grains, but this reference too has not been applied in view of the references already applied. This reference may anticipate some of the claims.
- Because of the large number of references that are available and can be applied against the claims, only some references have been applied, while others are being made of record, to draw applicant's attention to them. The examiner reserves the right to apply them at a later date, if necessary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Sayala whose telephone number is (571) 272-1405. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. SAYALA
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Group 1700.